National Institute of Environmental Health Sciences

The 'Hothaps' programme for assessing climate change impacts on occupational health and productivity: An invitation to carry out field studies

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Abstract:

The 'high occupational temperature health and productivity suppression' programme (Hothaps) is a multi-centre health research and prevention programme aimed at quantifying the extent to which working people are affected by, or adapt to, heat exposure while working, and how global heating during climate change may increase such effects. The programme will produce essential new evidence for local, national and global assessment of negative impacts of climate change that have largely been overlooked. It will also identify and evaluate preventive interventions in different social and economic settings.Hothaps includes studies in any part of the world where hourly heat exposure exceeds physiological stress limits that may affect workers. This usually happens at temperatures above 25 degrees C, depending on humidity, wind movement and heat radiation. Working people in low and middle-income tropical countries are particularly vulnerable, because many of them are involved in heavy physical work, either outdoors in strong sunlight or indoors without effective cooling. If high work intensity is maintained in workplaces with high heat exposure, serious health effects can occur, including heat stroke and death.Depending on the type of occupation, the required work intensity, and the level of heat stress, working people have to slow down their work in order to reduce internal body heat production and the risk of heat stroke. Thus, unless preventive interventions are used to reduce the heat stress on workers, their individual health and productivity will be affected and economic output per work hour will be reduced. Heat also influences other daily physical activities, unrelated to work, in all age groups. Poorer people without access to household or workplace cooling devices are most likely to be affected.The Hothaps programme includes a pilot study, heat monitoring of selected workplaces, qualitative studies of perceived heat impacts and preventative interventions, quantitative studies of impacts on health and productivity, and assessments of local impacts of climate change taking into account different applications of preventative interventions.Fundraising for the global programme is in progress and has enabled local field studies to start in 2009. Local funding support is also of great value and is being sought by several interested scientific partners. The Hothaps team welcomes independent use of the study protocols, but would be grateful for information about any planned, ongoing or completed studies of this type. Coordinated implementation of the protocols in multi-centre studies is also welcome. Eventually, the results of the Hothaps field studies will be used in global assessments of climate change-induced heat exposure increase in workplaces and its impacts on occupational health and productivity. These results will also be of value for the next assessment by the Intergovernmental Panel on Climate Change (IPCC) in 2013.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2799255

Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Health Professional, Policymaker, Researcher

Exposure : ☑

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Heat

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Global or Unspecified

Health Impact: ☑

specification of health effect or disease related to climate change exposure

General Health Impact, Injury, Other Health Impact

Other Health Impact: heat stress; heat stroke

Medical Community Engagement: ☑

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Workers

☑

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified